

In re Patent Application of:  
**PARSCHE**  
Serial No. 10/694,148  
Filing Date: October 27, 2003

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In the Claims:

1. (CURRENTLY AMENDED) An antenna comprising:  
a radiating ring element formed as a substantially solid spherical sector having about a one-half wavelength circumference in natural resonance for obtaining uniform current distribution and enhancing the gain relative to the size of the antenna.
2. (ORIGINAL) An antenna according to Claim 1 wherein the diameter of the radiating ring element is about twice its height.
3. (ORIGINAL) An antenna according to Claim 1 wherein the spherical sector comprises a one-third pi sector of a sphere.
4. (ORIGINAL) An antenna according to Claim 1 wherein said radiating ring element includes a capacitive element formed therein for forcing the radiating ring element to resonance.
5. (ORIGINAL) An antenna according to Claim 4 wherein said radiating ring element has a gap formed therein and operative as said capacitive element.
6. (ORIGINAL) An antenna according to Claim 5, and further comprising a capacitor mounted within the gap.

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7. (ORIGINAL) An antenna according to Claim 1, and further comprising a variometer that feeds the radiating ring element and operative for varying the feed impedance.

8. (ORIGINAL) An antenna according to Claim 7 wherein said variometer comprises a radiating element positioned within the radiating ring element and having a near field coupling thereto for exciting the radiating ring element.

9. (ORIGINAL) An antenna according to Claim 8 wherein said variometer further comprises a rotatable radiating ring element.

10. (ORIGINAL) An antenna according to Claim 9 and further comprising a controller and drive operative with the rotatable radiating ring element for controlling its rotation and changing the feed impedance in a predetermined manner.

11. (CURRENTLY AMENDED) An antenna comprising:  
a radiating ring element formed as a substantially solid spherical sector and having a capacitive element formed therein for forcing the radiating ring element to resonance and a circumference that enhances the gain relative to the size of the antenna.

12. (ORIGINAL) An antenna according to Claim 11 wherein the diameter of the radiating ring element is about twice its height.

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13. (ORIGINAL) An antenna according to Claim 11 wherein the spherical sector comprises a one-third pi sector of a sphere.

14. (ORIGINAL) An antenna according to Claim 11 wherein said radiating ring element has a gap formed therein operative as said capacitive element.

15. (ORIGINAL) An antenna according to Claim 11, and further comprising a capacitor mounted within the gap.

16. (ORIGINAL) An antenna according to Claim 11, and further comprising a variometer that feeds the radiating ring element at the capacitive element and operative for varying the feed impedance.

17. (ORIGINAL) An antenna according to Claim 16 wherein said variometer comprises a radiating element positioned within the radiating ring element and having a near field coupling thereto for exciting the radiating ring element.

18. (ORIGINAL) An antenna according to Claim 17 wherein said variometer further comprises a rotatable radiating ring element.

19. (ORIGINAL) An antenna according to Claim 18, and further comprising a controller and drive operative with the rotatable radiating ring element for controlling its

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rotation and changing the impedance feeding the radiating ring element in predetermined manner.

20. (ORIGINAL) An antenna comprising:  
a radiating ring element formed as a spherical sector and having a circumference dimensioned at a natural resonance for obtaining uniform current distribution and enhancing the gain relative to the size of the antenna; and  
a variometer feeding the radiating ring element and operative for varying the feed impedance.

21. (ORIGINAL) An antenna according to Claim 20 wherein said variometer comprises a radiating element positioned within the radiating ring element and having a near field coupling thereto for exciting the radiating ring element.

22. (ORIGINAL) An antenna according to Claim 21 wherein said variometer further comprises a rotatable radiating ring element.

23. (ORIGINAL) An antenna according to Claim 22 and further comprising a controller and drive operative with the rotatable radiating ring element for controlling its rotation and changing the impedance feeding the radiating ring element in predetermined manner.

24. (ORIGINAL) An antenna according to Claim 20 wherein the diameter of the radiating ring element is about twice its height.

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25. (ORIGINAL) An antenna according to Claim 20 wherein the spherical sector comprises a one-third pi sector of a sphere.

26. (ORIGINAL) An antenna according to Claim 20 wherein said radiating ring element includes a capacitive element formed therein for forcing the radiating ring element to resonance.

27. (ORIGINAL) An antenna according to Claim 26 wherein said radiating ring element has a gap forming the capacitive element.

28. (ORIGINAL) An antenna according to Claim 27 and further comprising a capacitor mounted within the gap.

29. (ORIGINAL) An antenna according to Claim 28 wherein the spherical ring element is filled with a magneto-dielectric loading material having a relative permeability equal to the relative permittivity.